GEOGRAPHIC NEWS BULLETINS

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SHEETS OF COPPER READY FOR MELTING

At this big American copper mine in Chile, plates from the electrolytic tanks, where the copper in solution has been plated onto lead "starting plates," are loaded on cars and carried to the furnaces to be melted. This electrolytic method produces the purest copper (see Bulletin No. 1).

HOW TEACHERS MAY OBTAIN THE BULLETINS

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Some Ways in Which the Two Americas Need Each Other

THE meeting in Washington of the first Pan-American Conference of public health directors emphasizes numerous ways in which the two Americas—North America and South America—are interdependent.

Mr. American Business Man from an inland city reads of the visiting Latin-Americans and sees occasional mention of the Monroe Doctrine.

"All well enough," he says to himself, "but that doesn't affect me. I must be about my day's work."

So he draws on his shoes, tanned with extract from the quebracho tree, literally the axe breaker—tough enough to justify its name and so heavy that hollow metal cylinders must be attached to float it down the forested Parana.

Then he proceeds to the bathroom to use the shaving cream and tooth paste contained in tubes of tin which may have come from Bolivia—that country produces one-fourth the world's tin supply.

Brazil—Where Coffee Comes From

He goes down to breakfast, and he doesn't mind much what breakfast is, so long as the coffee is good—coffee from Brazil, the country to which millions of homes pay morning tribute by their steaming coffee cups. And thousands have employment in a single Connecticut factory which makes percolators.

He turns to his morning paper, and the crop reports. He may be unmindful of the fact, but it is the deserts of Chile that make the world's gardens grow. When the incessant demands of multiplying population for more food began to tax the soil that grows the crops of the civilized world, the nations all turned to the west coast of South America for the magic materials that would restore their exhausted acres.

Chile's nitrates likewise put power into the explosives of Christendom.

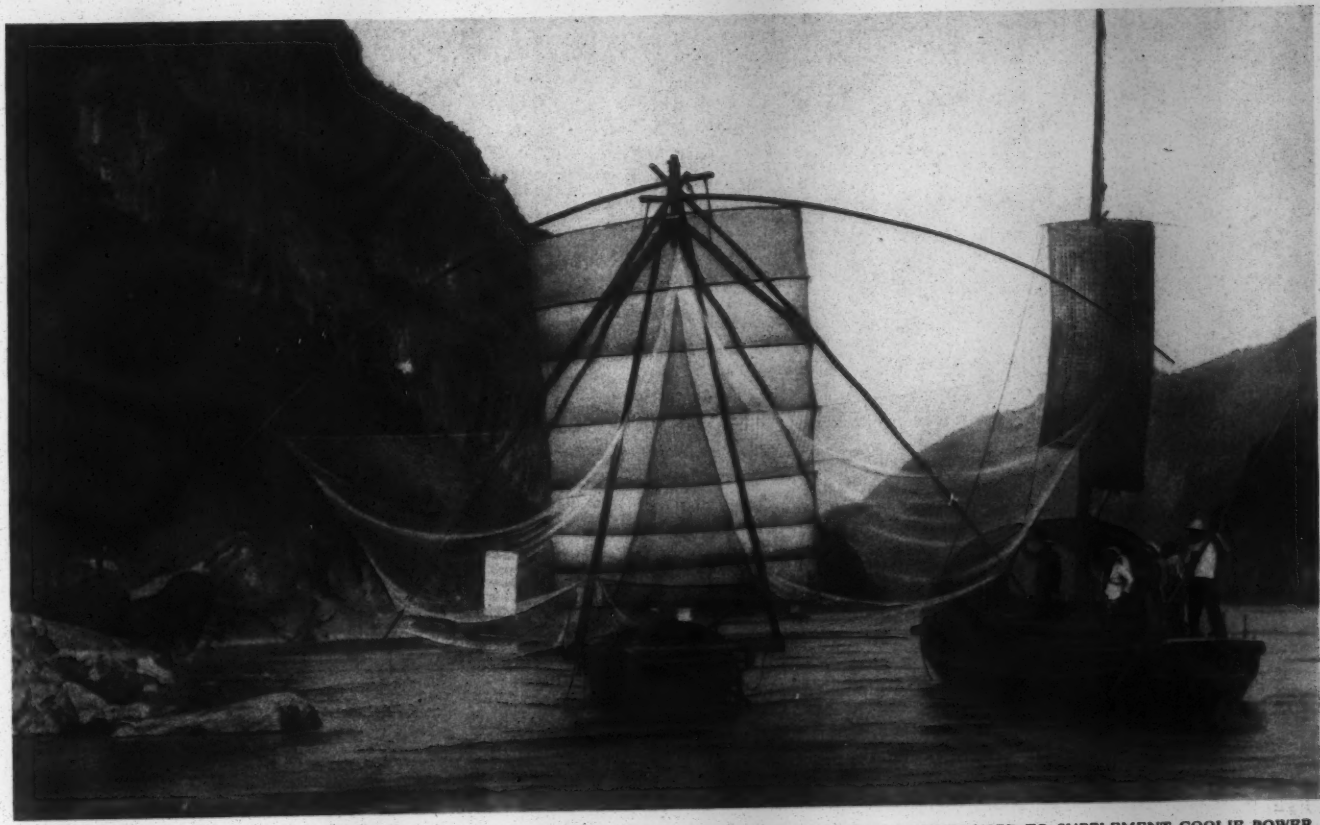
And explosives are not merely accessories of war, they blast the routes of railroads, they carve out the courses of aqueducts, and quarry our building stone.

Breakfast over, our imaginary business friend puts on his Panama hat—from Ecuador—and rides to his office in an automobile, made possible largely because Brazil taught the world the value of rubber. Today that country supplies only a fraction of the world demand for this product, but in yielding to the Far East its rubber supremacy Brazil, in turn, adapted to her own hillsides the coffee plant which, tradition tells us, originated in Abyssinia.

Home of Corn and Potatoes

South America can claim other gifts to mankind, gifts that now are widely dispersed.

An expedition of the National Geographic Society, some years ago, penetrated to the ruins of an ancient Inca wonder city—a city where pre-Columbian matrons no doubt bewail certain fashions to the younger Inca generations—those freakish pins, for example, with humming birds carved on their heads and those new fangled earrings, with discs on the outer side of the ear lobes, so perforated that tiny feathers might be stuck in them.



A FISHING BOAT IN THE YANGTZE GORGES AND A JUNK WITH THE SMALL SAIL OF MATTING OFTEN USED TO SUPPLEMENT COOLIE POWER
(See Bulletin No. 2).

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The Grand Canyon of the Yangtze

THE U. S. Navy's patrol on the Yangtze River in China recently warned American vessels to keep out of the gorges in the vicinity of Ichang because this region has become a scene of revolutionary fighting.

A thousand miles westward from the coast of China the Yangtze river, which in Chinese means "The Child of the Ocean," in its passage through the outer rim of central Asia's mountain system has carved, in surpassing beauty and majestic grandeur, the five gorges of the upper Yangtze, rightly called the gateways to West China. They stretch from Ichang, until recently the head of steam navigation, to Kweichow, a distance of 125 miles.

The Palisades of the Yangtze

The traveler is prompted to call "hats off!" as he sails between these massive walls, crowned with cathedral domes that companion with the clouds; and his admiration is mingled with the awe of the river, with its succession of rapids and treacherous whirlpools that take heavy toll of life and merchandise from those who enter, thus creating the tradition that only the hardy and the favored of the gods pass through.

Such is the entrance to the country which the first western traveler, Marco Polo, who visited that region in the Thirteenth century, described as a cultivated garden with great cities, and a recent visitor calls "Sze-chuan the Beautiful, the richest and most populous and altogether the most picturesque part of China."

For many centuries and until yesterday, the journey from Ichang to Chung-king, a distance of 350 miles, required fully a month and sometimes two. It was made by native junk, pulled along after the manner of the old-fashioned canal boat, but, instead of the tow-path mule, by a crew of 20 to 60 men tugging at the shore end of a bamboo hawser sometimes fully one-half a mile in length.

Dynamite Blasting a Deeper Channel

To-day dynamite is blasting a safer course, and 14-knot steamers make the journey in 40 steaming hours. The devils of the waters, as these rivermen will believe, won their victories also, for a large German commercial steamer lies buried in 120 feet of water at the entrance to one of the gorges.

To-morow it will be the railway, for it is now known that the Sze-chaun holds a golden store for the first road that enters it. The French have long planned to extend their Tongking-Yunnan line northwest of Chung-king and Cheng-tu, which will connect the province with the railway systems of northwest China and Manchuria; and the four-nation Hu-Kwang agreement, in which America has a share, calls for a line from Hankow to Cheng-tu.

A company of American engineers has completed the survey of this last-named line and a start has been made on its construction. When this is completed it will be supper in Ichang, breakfast in Chung-king, and tiffin in Cheng-tu.

"Most Extraordinary Journey in the World"

Time, which in the West is borne with wings and flies, but in China stands footless, content to crawl, will be saved, and the Sze-chuan Alps will vie with those of Europe as the mecca of travelers. But with the gain will come the loss of the most extraordinary journey in the world for the spirit of the Orient departs when the locomotive enters.

Gone will be that growing sense of the grandeur and majesty of God's creation, which is experienced as one moves slowly through these gorges to their climax in the Woosang gorge where 13 peaks rise one above another 5,000 feet into the clouds.

No longer will there be the thrill of danger overcome, and one will not hear the weird songs of the boatmen as they ply the oar or swing along the shore, nor join in their whistled prayer as they call to the spirit-winds for favor in the gorges.

Picturesque Sights Along the Way

Such passing sights as the trained cormorant catching fish for his master, the gold-washers scouring the gravel for its gold, and the daily sport of half a hundred men, each struggling to be the first to devour his morning rice will not be encountered.

It was among the granite stairways and fountains of this long-forgotten city of Machu Picchu that explorers found terrace gardens which are believed to be the origin places of two major food crops of modern times, the white potato and Indian corn.

How Roofs and Roads are Mined

Our friend drives into the city. His balloon tires roll over highways paved with asphalt from Trinidad until he reaches his office whose roof is likewise dug from that famous pitch lake. Day after day the asphalt is dug up and carted away, night after night the pitch rises up again to help make the roofs and the roads of both Americas.

The wheat grower has an immediate concern with Central America. Thousands of tons of hennequin, the fiber which yields binder twine, imported from Yucatan, make possible the use of the harvesting machine, a saving reflected in the price of every loaf of bread we buy.

Nature has conspired to bind the two Americas with that strongest tie of international friendship—the need for each other's products. Africa is South America's nearest continental neighbor, but even were Africa dotted with prosperous commercial communities one cannot imagine any very great trade between South America and Africa. Their resources are too much alike.

South America's rich store of tropical fruits and raw materials and forest products, many of them found nowhere else in the world, not only fill certain empty shelves in North America's pantries and workshops, they also fill the pockets of South Americans so that they may buy more and more of the things we make.

Now "Bridged" by Canal

Before the days of the Panama Canal, Pacific South America was nearer Europe, by water, than she was to the great population centers of the United States. Now the two continents have been bridged, not severed, by the Canal. Florida is due north of South America's Pacific Coast by the steering wheel as well as by the compass; the great Mississippi Valley looks south through the port of New Orleans, while Galveston and Houston raise new docks for this new trade entrance.

One is allured by the stories of many other resources and aspects of Latin America; how she contributes the iodine that heals the wounds of mankind, and first grew the quinine that helps conquer the Tropics; how she tickles our palates with vanilla and chocolate and delights the eye with the emeralds that come principally from Colombia; how Paraguay holds vast, virtually untouched deposits of manganese, used to alloy steel and copper, essential metals of an engineering and electrical age; how the Andes range spans the Equator with habitable cities perched on her sheer, cool heights and holds, within her tremendous masses, rich mineral deposits.

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Hamlet's Home Town Celebrates 500th Anniversary

NOTE TO TEACHERS—English teachers, as well as geography classes, will find this bulletin of interest.

HELSINGOR, Denmark, alias Elsinore, in June celebrated its past, which began 500 years ago.

One ghost, at least, of Elsinore's past is known the world around, that is the shade of a King of Denmark, father of Prince Hamlet.

But the other members of the cast of Shakespeare's drama are no ghosts to the Helsingorians. Ophelia and Hamlet, Polonius and the rest bring considerable income to the town annually from tourists. Most real of all is the king's castle. What tourist will pass Helsingor, when he can pace the very same rampant where Hamlet met his father's ghost!

Satisfying the Tourist

One American who happened to visit Elsinore in the winter some years ago, approached a native of the town asking the way to Hamlet's grave. A search at that time of year would be fruitless, the candid Dane told him, because the grave was not usually built up before spring. English and American tourists annually carry it off bit by bit, the Dane explained, until there is nothing left of the artificial mound by fall.

Hamlet's home town is a sort of out-dated Gibraltar of the Baltic. The entrance to the Baltic is even more constricted than the Straits of Gibraltar. One sails into Skagarrack northeast along the lobe of Norway, then southeast down the Kattegat, separating Denmark and Sweden, to the Sound or narrows. Here a traveler can easily pick out houses and people on both banks, for the shores are only two and one-half miles apart. On the Danish headland is Helsingor, while its Swedish twin on the opposite side is called Helsingborg. The Sound continues narrow for 40 miles. Its Baltic throat is clogged with an island. Between the island and the Danish mainland shore is the metropolis and capital city of Copenhagen. The latter has out-distanced Helsingor because it could be guarded better. Copenhagen's quay-lined channel also offers protection from storms which Helsingor could never provide.

In 1426 when Helsingor was founded there was, indeed, "something rotten in the State of Denmark," although it was 250 years before Shakespeare got around to say so. The King needed money to run the country on and to buy "butter for the royal slice of bread." But the nobles of Denmark, who were the tax collectors, told the King they needed the money much worse than he did. The general strike of the nobles was compromised by an agreement that the King should have all the revenue from dues which would be levied on every vessel that passed the Sound.

Began Life as Customs Station

So Helsingor was born, since it was the logical place for a customs station. Prospering also at this period was the Hanseatic League, a sort of glorified international Chamber of Commerce.

Thousands of the League's ships had to pass Helsingor on the way to north Germany, Poland, Russia and Scandinavia. Their mission was to deliver the

Neither can we challenge another boat, bearing another flag, for a 30 days' race to the city of Chung-king, and reap the joy of finishing with the Stars and Stripes waving a salute to a worthy foeman less than 100 feet behind at the end of the 350-mile journey.

Chung-king, 200 miles above the gorges, is a walled city with 600,000 inhabitants, situated at the confluence of the Yangtze and the Kia-ling rivers, and is, through the fiction of a foreign treaty, an open seaport, notwithstanding the fact that it is 1,500 miles from the coast and 1,000 feet above the level of the sea. It is now the head of steam navigation for nearly a dozen steamers controlled by the Chinese, the seat of maritime customs for the West, the point of distribution for all western-borne commerce, and the assembling depot for all shipments to other parts of China and foreign lands.

Send U. S. Oils, Bristles and Hides

The chief exports to America and other countries are paint oils of the tung tree, medicines, bristles, feathers and hides, and manufactured articles.

Confined between its two rivers, this city, like New York, is growing into the air. It has no suburban lines to relieve its surplus population, and real estate has accordingly increased in the past decade from 100 to 200 per cent in value, making it profitable to erect fine foreign buildings, in which it excels any purely native city in China.

In traveling from Chung-king northwestward 300 miles to Cheng-tu one must go by sedan-chair, borne on the shoulders of two, three, or four bearers. The rich ride in fours by choice, as do the portly without option.

Traveler May Require Regiment for Escort

In addition to the chair-bearers, the foreign traveler requires a coolie to bear his cot and bedding, another to carry his food, and an attendant to cook it. A small party easily becomes a regiment, and if an armed escort accompanies it, as is usual, the party resembles an army.

Beyond the walls of Chung-king is the city of the dead. The road passes square-built tombs of the Ming period; near by are the crowded lines of public graves for beggars and the very poor; and then, far away to the top of the hill about four miles distant, are the regulation mounds of Chinese graves, with here and there beautifully carved, terraced mausoleums.

A more orderly section of broad extent, reserved for Mohammedan graves, shows that the followers of the Crescent are no mean or inconsiderable company among the city's population.

Farming in Sze-chuan

Out from the crush and the hum of the city of the living, and past the quiet camp of the dead, the traveler comes to the country—not, however, the country of the western world; rather a mass of terraced paddy fields and farm gardens, with human beings always in sight. The inhabitants of Sze-chuan surpass in rugged diversity of race the variety of the province's scenery. More valuable than its rich mineral deposits and superbly tilled land, the people of Sze-chuan are at once its prime asset and interest.

The western part of Sze-chuan might well be called the museum of the human race. Here are to be found the surviving remnants in the most heroic struggle for existence that humanity has ever waged and who, for lack of a better term, we call the "tribesmen."

The Chinese call them "the eighteen nations," but it is believed that there are several times eighteen nations or tribes, each under its own king, council, or feudal lord, independent or semi-independent of each other and of the Chinese in whose borders they dwell.

One notable thing about the roads of western China is that not a wheeled vehicle is seen, except the wheelbarrow near Cheng-tu. Thousands of tons of commerce pass over these highways annually, all on the backs of men; and as one approaches the center of population he finds that the sewage and the water of the city are on their backs also.

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York: Where Policemen Must Lock Up the Walls at Twilight

EXCAVATIONS at York, England, revealing ancient Roman devices for catapulting huge stones, call attention to a city which preserves many souvenirs of medieval times as well as the early period of Roman occupation.

One duty of the policemen of York to-day is to clear the ancient walls of pedestrians at nightfall, and lock the gates leading to the walks along their tops. On these walls, one may stroll around the older city, which to-day is but the core of York; a walk of nearly three miles.

In doing so the visitor passes the "bars," or gates, such as Micklegate Bar which still discloses the arms of England, France, and the city. Once this gate seldom was without a gruesome decoration of heads of traitors; here hung the head of the elder Duke of York, consigned by Margaret to die with the comment:

"Off with his head and set it on York gates:
So York may overlook the Town of York."

Upper Stories of Buildings Nearly Meet

Another evidence of the ancient city is the network of narrow, tortuous streets, some too narrow for an automobile to enter, and some with upper stories projecting so far over the passageways that only in midday does a narrow shaft of sunlight reach the paving.

At night the lighting also is dim and this fact accounts for an unusual piece of equipment which the policemen wear. A belt supports a contraption which puzzles visitors until they learn it is a flashlight which the policeman turns on in patrolling the darker byways; and it is worn instead of carried, so he still may have both hands free to deal with offenders.

All the world knows about York Minster, largest medieval church west of the Alps, famed for the marvelous color of its stained glass windows; for its choir and nave where, perfectly exemplifying the Gothic building, the whole weight of the vault rests on a few piers, leaving all wall space free for windows; and for other windows where monkey musicians are portrayed, and more curious still, a monkey funeral is depicted.

Where Roman Navy Beached

One may climb to the tower of York Minster, 180 feet above the street, and sense the reason why York was located on its present site by the Romans. It is at the head of tidewater of the Ouse, assuring fresh water, and also permitting ships to ply there from the sea. Not ships of the present-day British Navy, of course, but the light vessels of the Roman invaders, so small that they were drawn up on the beach by night.

It was less than a century after the birth of Christ that the Romans probably first came to York. Constantine the Great was proclaimed there, and the Roman town became one of the four British camps holding the rank of *Colonia*. For entirely different reasons this supremacy was attained again in medieval England. By the roads of that time, as by rail to-day, York is about halfway between London and Edinburgh. Hence in the constant fighting between England and Scotland the city was of high strategic importance. Now there are more

beautiful silks and the palate-exciting spices which were coming in cargoes from the Orient. To enforce the royal ship dues a later King, in 1577, began the towered castle which Shakespeare makes the scene of Hamlet. At that time the Bard was 13 years old, so the castle was probably nearly as much of a marvel to him and to his public as the Woolworth Tower is to us. The United States was one of the signatories to the treaty in 1857 which abolished the Sound dues and ended the usefulness of "Hamlet's" castle.

There are 13,000 souls in Helsingor and all of them old enough to think about it are sure that Shakespeare came to their city as a wandering player. Else how could he have described the castle so well and caught the spirit of the people so accurately! The Kronborg, as the castle is called, has a "platform" for the guard and ghost before it. Even the lobby to the throne room and long flights of stairs seem especially designed for the wandering Ophelia. Certainly Shakespeare did much better by the geography of Denmark than of some other countries. Bohemia (modern Czechoslovakia) would appreciate the sea coast he credited it with and no doubt Venice would like to acquire the salt water estuary to Milan which is quickly dug in "The Two Gentlemen of Verona." But in Hamlet he adhered more closely to facts. Dr. Maurice Francis Egan, American minister to Denmark, saw "Hamlet" enacted, as it can be and occasionally is, in the courtyard of the castle itself, the scene of the play.

More recently a hotel proprietor has erected a monument on a grave which he calls Hamlet's. Tourists drop flowers on it. But he pushed the story a little far when he exploited a pool nearby as the pond where the mad Ophelia drowned herself.

Bulletin No. 3, October 25, 1926.

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STEAMSHIP PIERS ALONG THE WATERFRONT OF NEW YORK CITY AS SEEN FROM AN AIRPLANE **(See Bulletin No. 5).**

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The Man-Made "Floating Islands" of the Atlantic

THOUSANDS of Americans returning from their first visits to Europe during the past summer realized more keenly that crossing the Atlantic has become a far different matter from what it was when the first steamship made the passage barely three generations ago, or even when men and women still living made their first transit.

The larger ships have come to be called "ocean ferries," and the name is in many ways appropriate. You do not expect to be tossed about much on a ferry; and you needn't be shaken up much now in crossing the Atlantic, unless you choose the stormiest seasons. Ferries run on close schedules; and when you go aboard a crack trans-Atlantic liner nowadays you know pretty well within a few hours when you will step ashore 3,200 miles away.

The two biggest of them are practically great wandering steel islands that, defying the usual rules of geography, make themselves now a part of the Eastern Hemisphere, now a part of the Western. Their length approaches 1,000 feet, almost a fifth of a mile; their beams are 100 feet, as wide as a boulevard. Many a proud building, housing the population of a town, rises from a land area smaller than the hulls of these great ships.

Ships with Populations of Towns

The ships are themselves practically great buildings, whose "land" as well as their superstructures was fashioned by man; and they, too, house the population of a town. When you cross to Europe on such a boat it is no longer a matter of being marooned for a week or ten days with a small group of people. It is as though you spent six fleeting days (they are days of 23 hours) in a town whose population was far above the average in culture, prosperity, and intelligence; whose government functioned perfectly; and which maintained numerous attendants to look after your comfort.

There are few shore comforts that you cannot have on such a ship. You sleep in beds, not bunks. There is running water in your stateroom. You dine as you would at a great land hostelry; and you will feel uncomfortable if you are not prepared to dress the part of a metropolitan diner. There are good orchestras which play for tea, and for dances in a great ball room each evening. The promenade deck on which you take your walks is nearly a quarter mile in circuit.

There are numerous deck games, including two sorts of deck tennis, and even golf tournaments for the championship of the boat. On the lowest deck is a large swimming pool. There is a card room for votaries of bridge; a well stocked library; and a smoking room that equals in comfort those of exclusive clubs. There is a barber, a hair-dresser, a tailor, a doctor and dispensary of course. Whether you are well or ill, and whether you crave mental diversion, athletic sports, or luxurious ease, you can find what you wish.

Power Houses of the Sea

Operating a ship of this sort is a tremendous enterprise. In the linen closets and in use are some 200,000 pieces of linen. On the trip from New

than fifty cities in England larger than York; once it was the second city of Britain.

King Resented Indifference to Visit

For five centuries York was the only place in England except London which had a Lord Mayor. It retains, to this day, its privilege of being a county unto itself and elects its own sheriff. Kings found it politic to visit there. Shakespeare's "King Henry the Sixth" tells how Edward the Fourth was proclaimed there; John, on the other hand, fined the citizens heavily for not giving him the reception he believed his due.

Besides its beautiful church, York is famous for a pudding, for a relish and for a railroad station. Its most famous "citizen," perhaps, is a fictional character. For it was in York, Defoe records, that Robinson Crusoe was born.

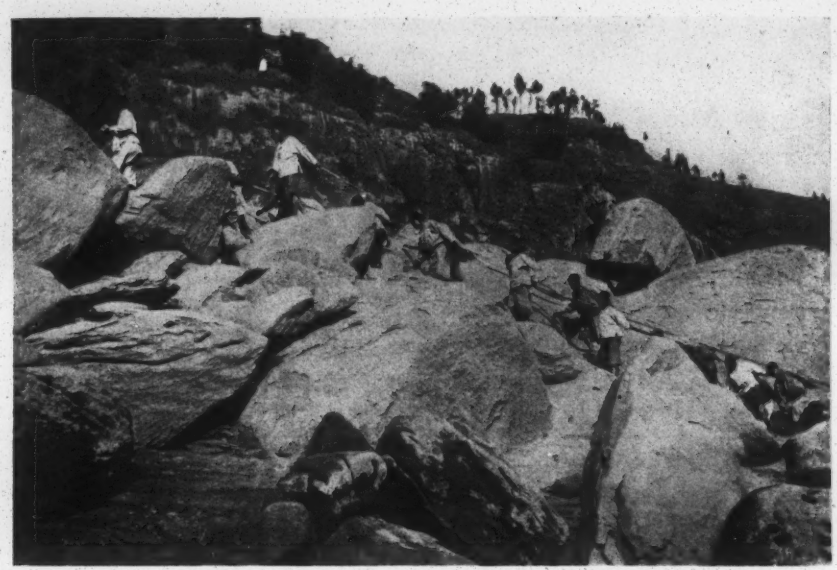
The railroad station is unusual for its size, and also because it is built on a curve. York citizens hold that they have access to more places without change of trains, from this station, than from any other place in the kingdom, not even excepting London.

In Midst of Huge Truck Garden

The association of food with York is not surprising, for the outlying country resembles one huge vegetable farm. Every fractional acre of the rich, fertile soil is used; some tenants have even rented patches along the railroad rights of way so that the passenger approaches York, seemingly, through gardens of cabbage and beans and grain.

The strawberries of England are famous; those of York are of exceptional size and flavor. And to pour over them come, fresh from numerous dairy farms, milk and cream, borne to one's door in a large can set into a two-wheel cart, with a tiny platform behind on which the driver, usually a girl, stands as she drives from house to house.

Bulletin No. 4, October 25, 1926.



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A DIFFICULT STRETCH OF TOW-PATH ALONG THE YANGTZE

The travelers are gripping fast to the rocks where a slip costs a limb or a life (see Bulletin No. 2).

York to Cherbourg the biggest liners might throw overboard a piece of linen every three seconds, leaving a "hare and hound" trail of towels, sheets, stewards' aprons, and the like entirely across the Atlantic, no two pieces many feet apart. And the ship would arrive on the other side with several thousand pieces left.

Far down in the hull of such a ship, in the section seen by few passengers, and well below the water line is the tremendous, complicated machinery that shifts these "islands" from hemisphere to hemisphere; in effect, huge power-houses.

Four great shafts 16½ inches through and more than 100 feet long are spinning around at 180 revolutions per minute, nakedly between their bearings and the turbines that turn them. Toward the rear of the hull you see them disappear through the steel wall. Just outside, fixed rigidly to the shafts, the big propellers are churning, pushing nearly 60,000 tons of steel and humanity through the ocean at 25 miles an hour. The briny ocean trickles in about these final shaft bearings in sturdy streams. You ask the chief engineer about it with some nervousness. He laughs reassurance above the din. It is necessary that the packing be not too tight. And the pumps are always busy. They suck up these rills and many more like them and spew the water back into the sea.

As a matter of fact the machinery reaches out into the ocean and sucks the sea into the ships in Gargantuan gulps. A pipe three feet through is the intake. Through it are pumped 22,000 tons of sea water per hour to condense the steam. As soon as it has served its purpose out it is pushed on the other side.

The hull has a double bottom. Between the two floors are pumped before each voyage 6,000 tons of fresh water to serve machinery and passengers.

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A GROUP OF DANISH SCHOOL GIRLS, IN THEIR GIRL SCOUT UNIFORMS, ON A HIKE